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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, Colorado 80527-2400

PATENT APPLICATION

ATTORNEY DOCKET NO. 10010060-5

IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Sivapackia Ganapathiappan

Confirmation No.: 9838

Application No.: 10/698,607

Examiner: Helen Lee Pezzuto

Filing Date: 10/30/2003

Group Art Unit: 1713

Title: AMPHIPATHIC POLYMER PARTICLES AND METHODS OF MANUFACTURING THE SAME

Mail Stop Appeal Brief - Patents
Commissioner For Patents
PO Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL OF REPLY BRIEF

Transmitted herewith is the Reply Brief with respect to the Examiner's Answer mailed on 4/28/2006.

This Reply Brief is being filed pursuant to 37 CFR 1.193(b) within two months of the date of the Examiner's Answer.

(Note: Extensions of time are not allowed under 37 CFR 1.136(a))

(Note: Failure to file a Reply Brief will result in dismissal of the Appeal as to the claims made subject to an expressly stated new ground rejection.)

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Signature: Brenda Wiseman

Respectfully submitted,
Sivapackia Ganapathiappan

By

Gary P. Oakeson
Gary P. Oakeson

Attorney/Agent for Applicant(s)

Reg No. : 44,266

Date : 06/28/2006

Telephone : (801) 566-6633



REPLY BRIEF
DOCKET NO. 10010060-5

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPELLANT:	Ganapathiappan et al.	<div style="border: 1px solid black; padding: 5px;"><p style="text-align: center;"><u>CERTIFICATE OF MAILING</u> <u>UNDER 37 C.F.R. § 1.8</u></p><p>DATE OF DEPOSIT: 06/28/2006</p><p>I hereby certify that this paper or fee (along with any paper or fee referred to as being attached or enclosed) are being deposited with the United States Postal Service under 37 C.F.R. § 1.8 on the date indicated above and is addressed to: Board of Patent Appeals and Interferences; United States Patent and Trademark Office; P.O. Box 1450; Alexandria, VA 22313-1450.</p><p style="text-align: center;"><i>Brenda Wiseman</i> Brenda Wiseman</p></div>
SERIAL NO.:	10/698,607	
FILED:	October 30, 2003	
FOR:	AMPHIPATHIC POLYMER PARTICLES AND METHODS OF MANUFACTURING THE SAME	
ART UNIT:	1713	
EXAMINER:	Helen Lee Pezzuto	
DOCKET NO.:	10010060-5	

APPELLANT'S REPLY BRIEF UNDER 37 C.F.R. § 41.41

Board of Patent Appeals and Interferences
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Appellant submits this reply brief in response to the Examiner's Answer mailed April 28, 2006 and in connection with Appellant's appeal from the final rejection of the Patent Office, mailed September 9, 2005, in the above-identified application. A Notice of Appeal was filed on December 9, 2005.

I. INTRODUCTION

Appellant responds below to the statements and arguments made in the Examiner's Answer. Arguments and statements by Appellant made earlier but not repeated here are also part of the record for this appeal and are not waived; although they may be modified or supplemented herein. Some of the Examiner's statements and arguments have already been addressed in Appellant's appeal brief and are not repeated herein. Appellant's silence herein with respect to any of the Examiner's statements or arguments does not indicate Appellant's agreement with or acquiescence thereto.

II. ARGUMENT

A. Response to Examiner's "Grounds of Rejection"

The Examiner has mischaracterized the prior art in the "Grounds of Rejection" presented in the Examiner's answer. See Examiner's Answer, pp. 3-6. This mischaracterization is explained as follows:

The Examiner states that the carboxyl group-containing vinyl monomer disclosed in U.S. 5,942,560 to Idogawa et al. (hereinafter "Idogawa") "falls within the scope of the instant unsaturated monomer containing a convertible moiety in hydrophobic form." See Examiner's answer, p. 3. Appellant has acknowledged that Idogawa teaches the use of 2-methacryloyloxyethyl succinate. However, Idogawa does not teach that the monomer is provided with as a convertible moiety in hydrophobic form. On the contrary, the disclosure of Idogawa strongly indicates that the hydrophilic form is contemplated. First, Idogawa characterizes the

carboxyl group-containing vinyl monomer as hydrophilic (“A hydrophilic monomer alone such as a vinyl monomer having an acid functional group...”)
See col. 4, lines 7-8. Further, Idogawa teaches that the carboxyl group-containing vinyl monomer is provided in a form so as to improve the admixture of the water soluble basic dye with the mixed vinyl monomer. See col. 4, lines 23-25. Providing the monomer in hydrophobic form would not accomplish this purpose. Therefore, Appellant submits that the Examiner’s characterization of Idogawa as disclosing a monomer containing a convertible moiety in hydrophobic form is incorrect.

With respect to the remainder of the Examiner’s “Grounds of Rejection,” Appellant reasserts the arguments made in its appeal brief.

B. Response to Examiner’s “Response to Argument”

1. The rejection under § 102 of claim 6, 9, and 10

The Examiner argues that the distinction asserted by Appellant between Idogawa’s teaching and the present invention is “not compelling” because Idogawa discloses “the same methacryloyloxyethyl succinate monomer...as presently disclosed and exemplified as the unsaturated monomer containing a convertible moiety in hydrophobic form.” See Examiner’s Answer, p. 6. However, as Appellant has explained in the Appeal Brief, for a single reference to anticipate a claim under 35 U.S.C. § 102 “[t]he identical invention must be shown [therein] in as complete detail as is contained in the...claim.” Verdegaal Bros. v. Union Oil of California, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051 (Fed. Cir. 1987). Claim 6 (the independent claim) expressly requires an unsaturated monomer containing a convertible moiety in hydrophobic form. In other words, Claim 6 not only recites a convertible moiety, but also expressly recites the particular

state of that moiety provided in the invention, which is important to the claimed invention.

Under Verdegaal Bros., for a prior art reference to anticipate this claim, it must also teach the particular state of the convertible moiety. However, Idogawa only provides the moiety, not its state, and therefore does not provide sufficient detail to anticipate claim 6.

The Examiner then suggests that Idogawa inherently anticipates claim 6. The Examiner argues that the “moieties at issue is [sic] expected to be ‘convertible’ in prior art composition,” and asserts further that the disclosure of an (optional) pH controller constitutes a teaching of a converting agent. See Examiner’s Answer, p. 6. Appellant does not concede that Idogawa gives rise to an expectation of convertibility. Regardless, such an expectation would not remedy the lack of express disclosure in Idogawa of the hydrophobic state of the moiety as required in claim 6. This is particularly true in that Idogawa teaches (a) that the monomer in question is hydrophilic and (b) that it improves admixture of a water soluble basic dye. See col. 4, lines 7-8 and 23-25. As for the disclosure of a pH controller, this neither expressly nor inherently provides the elements required in claim 6. Idogawa teaches the use of the controller as optional, and teaches no particular change in pH (increase or decrease) as being desirable. At any rate, the use of changing pH as applied to the present invention is not inherently disclosed in Idogawa because that reference does not provide the convertible moiety in a hydrophobic state. Appellant therefore reasserts the argument that Idogawa does not expressly or inherently disclose all of the elements of claim 6. Appellant asserts further that Idogawa also does not anticipate claims 9 and 10, because each includes all of the limitations set forth in claim 6.

2. The rejection under § 103 of claims 7 and 8

The Examiner maintained the rejection of claims 7 and 8 as unpatentable under 35 U.S.C.

§ 103(a) over Idogawa in view of U.S. 4,795,794 to Winnik et al. (hereinafter “Winnik”). The Examiner further stated that this combination was proper because the references were “analogous art and within the filed [sic] of appellant’s endeavor.” See Examiner’s Answer, p. 7. While not conceding that Idogawa and Winnik are analogous to the present invention, Appellant maintains that, even if analogy were present, claims 7 and 8 are patentable over these references.

According to M.P.E.P. § 706.02(j), the asserted prior art reference (or references when combined) must teach or suggest all the claim limitations. Idogawa and Winnik, alone or in combination, fail to teach or suggest a convertible moiety in hydrophobic form as required by claim 6. Since the cited references do not teach or suggest all of the limitations of claim 6, they certainly do not teach all of the limitations of the claims that depend therefrom, including claims 7 and 8. In addition, the disclosure of Idogawa teaches away from the purpose of monomers having a convertible moiety as used in the present invention. Also, modifying Idogawa in accordance with this purpose would destroy the function set forth in that disclosure, as it would not improve admixture with water soluble basic dyes. These shortcomings of this rejection are set forth in detail in Appellant’s appeal brief, and are also reasserted here.

3. The rejection under § 103 of claim 24

The Examiner argues that the conversion of the hydrophobic convertible moiety to a hydrophilic form as recited in claim 24 is inherently disclosed in Idogawa. Appellant disagrees with this contention. Descriptive matter that is missing in a reference can be considered as inherently disclosed only if persons having skill in the art would recognize it as being necessarily present in the thing described. Continental Can Company USA, Inc. v. Monsanto Co., 948 F.2d 1264, 1268 (Fed. Cir. 1991). As explained above, Idogawa teaches pH controllers as an optional

component of the composition. Furthermore, Idogawa teaches neither a particular direction of pH change, nor controllers specifically directed to accomplish such a change. Finally, Appellant again asserts that Idogawa does not provide the convertible moiety in a hydrophobic state. In view of these considerations, the conversion of a convertible moiety from a hydrophobic form to a hydrophilic form as recited in claim 24 can not be considered to flow necessarily from the teaching of Idogawa.

Therefore, Appellant maintains that claim 24 is patentable over Idogawa for at least two reasons: first, because the Idogawa disclosure does not provide the convertible moiety in a hydrophobic form as required in claim 6, from which claim 24 depends; and second, because that reference fails to teach or suggest the conversion required in claim 24. In that respect, Appellant submits that the case for patentability of claim 24 is particularly strong, since it rests upon bases that are not reached by the Examiner's arguments regarding claim 6. It should be emphasized that converting the hydrophobic moiety to hydrophilic form after formation of the particle, as set forth in claim 24, is significantly different than starting in the hydrophilic form. As set forth by the Appellant in the claims, improved copolymerization can occur when the monomers are commonly in hydrophobic form, as they tend to attract one another during polymerization. After the particles are formed, the convertible moieties can be converted from hydrophobic form to hydrophilic form to functionalize the surface with hydrophilic groups. As they are already attached to the particle at this point, changing their state does not adversely affect to particle formation. This is a significant advancement over the teachings of the prior art and results in a completely different composition structurally. Thus, at minimum, claim 24 is clearly patentable over the cited prior art. Thus, independent review of this claim is expressly requested.

III. CONCLUSION

In conclusion, Appellant respectfully submits that the claims on appeal are patentably distinct over the asserted prior art references. As set forth in Appellant's appeal brief and herein, Idogawa fails to teach with requisite specificity the invention set forth in claim 6 as well as the claims depending from it, including claims 9 and 10. The rejections under § 102 are therefore improper and should be overturned. Furthermore, neither Idogawa, Winnik, nor the combination thereof motivates, teaches, or suggests the invention set forth in claims 7, 8, and 24 with the requisite specificity to one of ordinary skill in the art, within the meaning of 35 U.S.C. § 103. The Examiner has therefore failed to meet its burden of making a prima facie case of obviousness with respect to these claims, and these rejections should also be overturned.

For at least these reasons, Appellant submits that the pending claims are patentable, and respectfully request that this honorable Board of Appeals reverse all the rejections and remand the case to the Examiner for allowance.

Dated this 28th day of June, 2006.



Gary P. Oakeson
Attorney for Applicants
Registration No. 44,266

Of:

THORPE NORTH & WESTERN, LLP
8180 South 700 East, Suite 200
Sandy, Utah 84070
Telephone: (801) 566-6633
Facsimile: (801) 566-0750

On Behalf Of:

HEWLETT-PACKARD COMPANY
1000 NE Circle Blvd., m/s 422B
Corvallis, OR 97330-4239
(541) 715-0159